Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE AMERICAN SPECIES OF POLYPHEMOPSIS.

BY CHARLES R. KEYES.

Portlock's generic term *Polyphemopsis* was introduced into the literature of American Paleontology by Meek and Worthen,[1] who referred to the genus the species described by Hall[2] in 1858 under *Bulimella*, and also three additional forms, originally placed with *Loxonema* and *Eulima*. A number of other American fossil gasteropods have from time to time been assigned to Portlock's genus. But *Polyphemopsis* was founded on very imperfect material, and its structural characters have never been sufficiently understood to definitely limit the group. It seems to be regarded by the majority of European writers as a synonym of *Macrochilus* Phillips. The latter, however, has recently been shown to be identical with *Soleniscus* Meek and Worthen, which has precedence over Phillips' preoccupied term.

Although more than half a score of species have, in this country, been referred to the genus, it is quite apparent that members of at least two very different groups were included; while a detailed comparison of the various representatives appears to indicate that, with a few possible exceptions, no forms congeneric with Portlock's *Polyphemopsis elongata*, which may be regarded as the type of his genus, have as yet been recognized, with any degree of certainty, in the Paleozoic rocks of America. Until typical specimens of *Polyphemopsis* can be critically examined, the genus must be considered as of very doubtful utility.

As already stated there were embraced in this group such species as constituted Hall's genus *Bulimella*. These perhaps best exemplify the American forms of the section under consideration. The shells are fusiform, with the spire elongated; the whorls more or less decidedly convex, the last rather large; the columella curved, abbreviated or truncated at the base; the inner lip often well defined anteriorly, and usually separated from the outer by a more or less well-marked notch; surface smooth. Accordingly, this group would include not only those forms originally comprehended under *Bulimella* but also the species hereafter enumerated, and perhaps a few others now known under other generic titles.

---

[1] Geol. Sur. Illinois, vol. II, p. 372.

[2] Trans. Albany Ins., vol. IV, pp. 29–30.

Since, then, it is manifest that *Polyphemopsis* is not correctly applicable to any known American gasteropods, and inasmuch as *Bulimella* of Hall was preoccupied by Pfeiffer, it is necessary to find some more appropriate term to designate this group. *Bulimorpha*, established by Whitfield, is apparently the only available name for the shells in question, but whether this title will eventually be considered valid cannot now be fully decided.

In connection with *Polyphemopsis* Conrad's genus *Subulites* has frequently been alluded to, and by Lindström [2] and others the two terms have been considered nearly or quite synonymous. The validity of the latter group is however questionable. The type was very imperfect, consisting only of a portion of the body whorl and three or four of the preceding volutions—the upper portions of the spire and the apertural parts being entirely unknown. Strangely enough, of more than a dozen species described under the genus there is not a single one but that is fragmentary, or in the condition of broken casts, indicating only the general shape of the shell.

The following American forms have been referred to *Polyphemopsis*. The group doubtless includes also several other Carbonic species described under *Loxonema* and allied genera.

Bulimorpha bulimiformis (Hall).

Bulimella bulimiformis Hall, 1858. Trans. Albany Ins., vol. IV, p. 29; *Polyphemopsis bulimiformis* Meek and Worthen, 1866, Geol. Sur. Illinois, vol. II, p. 373; *Bulimorpha bulimiformis* Whitfield, 1882. Bul. Am. Mus. Nat. Hist., vol. I, p. 74. Warsaw Limestone.

Bulimorpha canaliculata (Hall).

Bulimella canaliculata Hall, 1858. Trans. Albany Inst., vol. IV, p. 29; *Polyphemopsis canaliculata* Meek and Worthen, 1866. Geol. Sur. Illinois, vol II, p. 373; *Bulimorpha canaliculata* Whitfield, 1882. Bul. Am. Mus. Nat. Hist., vol. I, p. 74. Warsaw Limestone.

Bulimorpha chrysalis (Meek and Worthen).

Polyphemopsis chrysalis Meek and Worthen, 1866. Proc. Acad. Nat. Sci. Phila., p. 267; *P. chrysalis* M. and W., 1873. Geol. Sur. Illinois, vol. V, p. 596. Lower Coal Measures.

In the absence of specimens for examination the exact generic relations of this form cannot with certainty be determined; but it appears to have closer affinities to this than to any other group. It resembles somewhat young shells of *Soleniscus* (*Macrochilus*) *new-*

---

[1] Bul. Am. Mus. Nat. Hist., vol. I, p. 74. 1882.

[2] Index to Generic Names of Gasteropoda Palæ. Period.

berryi (Stevens) but according to Meek and Worthen it does not exhibit the columellar fold so characteristic of that genus.

Bulimorpha elongata (Hall).

Bulimella elongata Hall, 1858. Trans. Albany Inst., vol. IV, p. 30; *Polyphemopsis elongata* Meek and Worthen (*non* Portlock), 1866. Geol. Sur. Illinois, vol. II, p. 373; *Polyphemopsis tereti-formis* Hall, 1877, Miller's Cat. Palæ. Foss., p. 245; *Bulimorpha elongata* Whitfield, 1882. Bul. Am. Mus. Nat. Hist., vol. I, p. 75. Warsaw Limestone.

Bulimorpha inornata (Meek and Worthen).

Loxonema inornatum M. and W., 1860. Proc. Acad. Nat. Sci. Phila., p. 465; *Polyphemopsis inornata* M. and W., 1866. Geol. Sur. Illinois, vol. II, p. 374. Upper Coal Measures.

In specimens of this species recently examined the inner lip appears to be quite variable, sometimes being very pronounced, sometimes scarcely defined.

Polyphemopsis keokuk Worthen, 1884. Bul. 2, Illinois State Cab. Nat. Hist., p. 9. Keokuk Limestone.

Described from casts in Limestone, too imperfect to deserve recognition. Its true generic characters cannot therefore be made out.

Polyphemopsis louisvillæ Hall and Whitfield, 1872. 23 Reg. Rep. N. Y. State Cab., pl. xii. figs. 1 and 2, desc. 24 Rep., p. 193. *P. knappi* H. and W., in some copies of advance sheets of 23d report. Upper Heldberberg.

In the absence of an authentic specimen ist generic position can only be surmised. It bears a close resemblance in some particulars to *Bulimorpha*, but it may belong to another group along with several of the so-called *Macrochili*, distinguished from the type by the alleged absence of the fold on the columella.

Bulimorpha minuta (Stevens).

Loxonema minuta Stevens, 1858. Am. Jour. Sci., (2) vol. XXV, p. 260; *Actæonina minuta* Meek and Worthen, 1873. Geol. Sur. Illinois, vol. V, p. 594; *Actæonina minuta* Keyes, 1888. Proc. Acad. Nat. Sci. Phila., p. 240. Lower Coal Measures.

If the recent observations upon this species from Des Moines are correct this form is a true *Bulimorpha* having its closest affinities with *B. canaliculata* (Hall). In most specimens examined the inner lip is well developed for half the length of the aperture, but appears to be separated from the outer labrum by a distinct notch.

Bulimorpha nitidula (Meek and Worthen).

Loxonema nitidulum M. and W., 1860. Proc. Acad. Nat. Sci. Phila., p. 465; *Polyphemopsis nitidula* M. and W., 1866. Geol. Sur. Illinois, vol. II, p. 374. Upper Coal Measures.

It seems very probable that this is the same form that was described by Hall as *Macrochilus fusiforme* and afterwards, in 1877, changed to *M. attenuatum.* Should this inference be correct the latter must be regarded a synonym of *B. nitidula.* Hall's type however was imperfect and the apertural characters not shown. The confusion has been further increased by a general want of discrimination on the part of some writers, between this and various varietal forms of *Soleniscus newberryi* (Stevens).

Polyphemopsis peracuta Meek and Worthen.

Eulima peracuta M. and W., 1860. Proc. Acad. Nat. Sci. Phila., p. 466; *Polyphemopsis peracuta* M. and W., 1866. Geol. Sur. Illinois, vol. II, p. 375. Coal Measures.

This species manifestly does not belong to the *Bulimorpha* group. At present, it appears that the original reference of this form to *Eulima* is probably correct.